

C.S.Ch.E. Conference PSLM 2005 Symposium

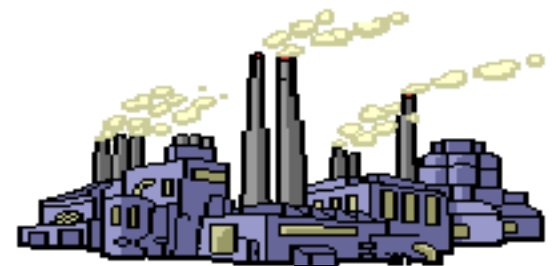
Leadership, Commitment & Accountability The Driver of Safety Performance

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Operations Integrity to Deliver Process Safety and Loss Management

Oil, Gas and Petrochemical businesses carry inherent risk

▲ Consider the following major incidents:

▲ Bhopal

▲ - **2,500 fatalities**

▲ Phillips Petroleum polyethylene plant explosion

▲ - **23 fatalities, \$1.5B loss**

▲ Exxon Valdez

▲ - **oil spill into Prince William Sound**

▲ BP Texas City refinery explosion

▲ - **15 fatalities, > \$1.0B loss**

Industry investigations show human factors to be a common, fundamental root cause behind incidents

Operations Integrity to Deliver Process Safety and Loss Management

Long-standing concern by IOL for Safety, Health and Environment

- ▲ **Safety is a VALUE ... Not a Priority**

- ▲ **Performance improvement requires Leadership for break through results**

Strong SHE performance makes good business sense

- ▲ **Is your “License to Operate” the business**

- ▲ **Translates into improved productivity, quality ...
Resulting in superior returns**

What is “Operations Integrity”

Imperial’s Operations Integrity Management System (OIMS)

- ▲ **Disciplined framework to ensure safe and reliable operations**
- ▲ **View work as a process to achieve sustainable results**

OIMS sets out the Roles, Responsibilities and Expectations

- ▲ **Common for all business units, and all employees**

Goal is “Operational Excellence”

- ▲ **“Flawless” SH&E performance**

Operations Integrity - 5 Key Attributes

Scope and Objectives

- ▲ **Systems purpose and desired outcomes**
- ▲ **What is and is not covered**

Processes and Procedures

- ▲ **Key tasks to be executed**
- ▲ **Links the tasks to results**

Accountable Resources

- ▲ **Responsibilities, Experience, Training**

Verification and Measurement

- ▲ **System functioning (deployed)**
- ▲ **Quality of processes (effectiveness) ... Results**

Feedback & Improvement

- ▲ **Basis for continuous improvement**

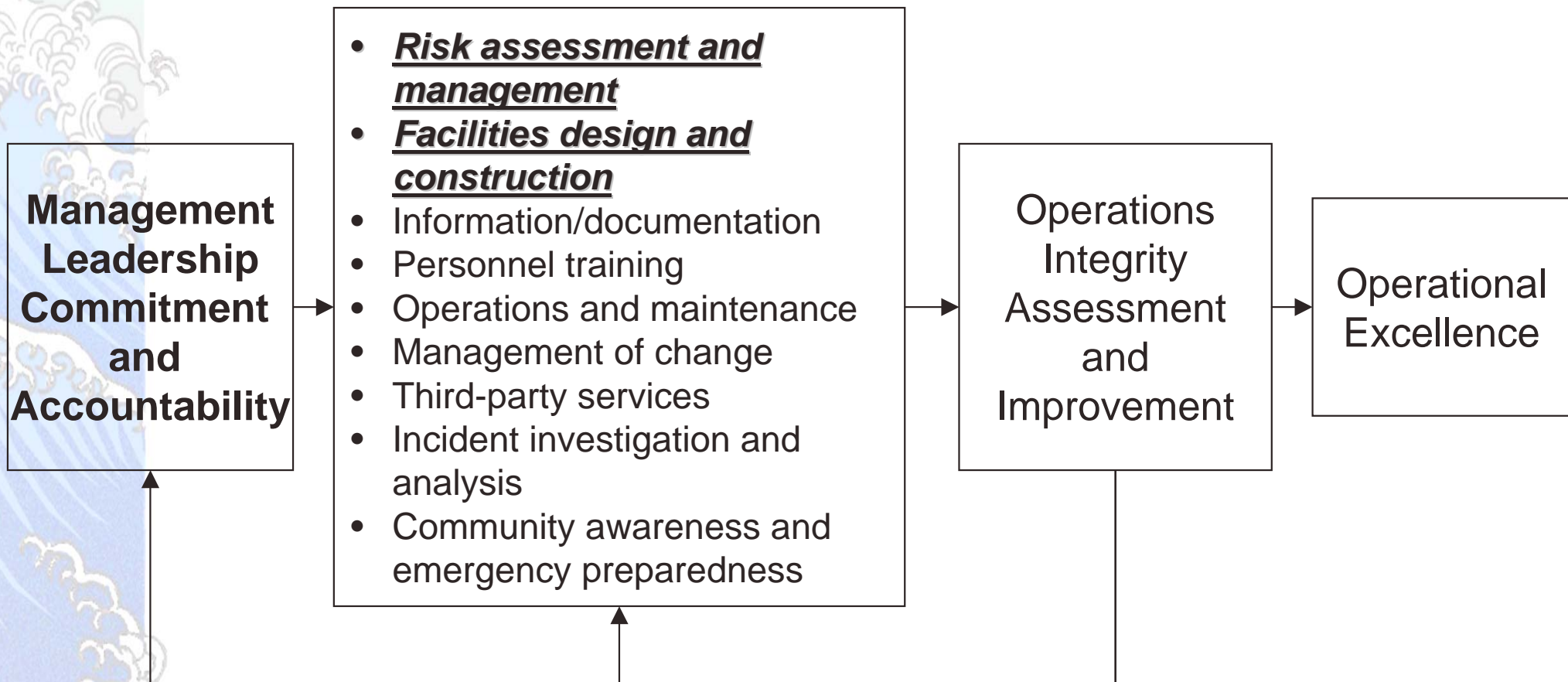
OIMF - IOL's Approach to Achieve Operational Excellence

Driver

Procedures,
Practices & Systems

Evaluation

Result

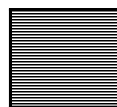


IOL's Matrix for Risk Categorization

		PROBABILITY				
CONSEQUENCE	A	B	C	D	E	
I	Higher Risk	Higher Risk	Higher Risk	Intermediate Risk	Intermediate Risk	Lower Risk
II	Higher Risk	Higher Risk	Intermediate Risk	Lower Risk	Lower Risk	
III	Intermediate Risk	Intermediate Risk	Lower Risk	Lower Risk	Lower Risk	
IV	Lower Risk	Lower Risk	Lower Risk	Lower Risk	Lower Risk	



Higher Risk



Intermediate Risk



Lower Risk

IOL's HAZOP Review Process

Process

- ▲ **Proactive, structured, process driven**
- ▲ **Five-Year Incident History**

Conducted by a Team of Experts

- ▲ **Lead by a trained, certified Risk Assessment facilitator.**

Scenario based

- ▲ **Risks are analyzed/categorized using IOL's Risk Matrix.**

Gap Closure

- ▲ **Documented and stewarded**

Imperial Oil's Safety Evolution Leadership Drives Results

Vast expectations with
half-vast programs

